Revue suisse Zool. | Tome 84 | Fasc. 2 | p. 349-359 | Genève, juin 1977

Chelodesmid studies. X. A synopsis of the tribe Priodesmini (Diplopoda: Polydesmida)[1]

by

Richard L. HOFFMAN

With 7 text-figures

Abstract

The new chelodesmid tribe Priodesmini is proposed to accomodate seven genera from northern South America: *Priodesmus* Cook, *Stenonia* Gray, *Brasiloschubartia* Jeekel, *Cearodesmus* Schubart, *Cypraeogona* gen. nov., *Cayenniola* gen. nov., and *Parastenonia* gen. nov. It is proposed to restrict *Priodesmus* to the two species *acus* Cook and *papillosus* Attems, and to revive *Stenonia* for *haematopterus* Jeekel, *coralloides* Jeekel, and *elegans* Gray. *Parastenonia* is proposed for *parae* Cook and *aurae* Schubart, the latter being the type species. *Cayenniola* is proposed to accomodate *Brasiloschubartia styliger* Jeekel, here considered to be not congeneric with the type species *B. zerneyi* (Attems). *Cypraeogona* is proposed as a new genus with the new *C. elisa* as type species (French Guiana). A key to genera based on both peripheral and gonopodal characters is given, and a list of the recognized species. This group contains relatively specialized chelodesmoids, and is considered to be related to the tribes Batodesmini and Trachelodesmini, which also occur in northern South America.

The recent opportunity to examine unidentified diplopod material in the Museum d'Histoire naturelle de Genève resulted in the discovery of many undescribed species, some of which likewise represent new generic taxa. One sample in particular is of special interest inasmuch as it belongs to a group of chelodesmoids endemic in northern South America which I had already under study and which can now be reviewed in a preliminary survey.

---

[1] A contribution from studies supported by Grant BMS 75-04860 from the National Science Foundation, Washington, D.C. This opportunity is taken to express the author's thanks to Dr. Bernd Hauser (Genève) for making available the material of the new species named in this paper.

As noted in a preceeding part of this series, the chelodesmoid fauna of the subcaribbean region contains a number of rather specialized taxa that depart in various ways from the presumptively ancestral lineages now restricted to Brasil and the Andean region. So far three aggregations of such genera have been defined under the tribal names Batodesmini, Trachelodesmini, and Pandirodesmini. In the following pages a fourth group of this general spectrum is proposed to encompass species so far referred to the genera *Priodesmus*, *Stenonia*, and *Brasiloschubartia*.

Although there is a fair degree of homogeneity in body form amongst the various species that make up this group, the rather striking discontinuities to be observed in gonopod structure lead me to believe that a large number of species must remain to be discovered in the Guyanas and northern Brasil. For this reason in particular the conclusions reached herein must be regarded as provisional at best, yet a beginning must be made as part of an effort toward overall synthesis of the entire family Chelodesmidae.

Priodesmini, trib. nov.

Components: *Priodesmus* Cook, *Stenonia* Gray, *Parastenonia* gen. nov., *Cayenniola* gen. nov., *Cypraeogona* gen. nov., *Cearodesmus* Schubart, and *Brasiloschubartia* Jeekel.

Diagnosis: Small to moderate sized, specialized chelodesmids in which the metaterga are granular and crossed by a distinct sulcus; epiproct generally broadened apically by enlargement of the subterminal tubercules; sterna broad and setose; antennae robust, the 6th article generally more massive than the others and the 7th nearly hemispherical. Legs long and slender, tarsal claw reduced in size, almost concealed by an apical cluster of long silky setae; femora of anterior legs often swollen ventrally or with projecting adenostyles; tibiae without pads.

Gonopod aperture large to very large in size, oval to subtrapezoidal; no gonosternal remnant present, coxae in contact medially, without coxal apophysis; coxal setation variable, usually present only on lateral side. Telopodite variable in form, usually set against coxa at right angle, basically straight, prefemur forming a line with acropodite; prefemoral process very variable, from small and slender to much larger than acropodite; a solenomerite may or may not be present; telopodite without enlarged setae beyond prefemur, and without torsion.

Distribution: The Guyanas and the Brasilian states of Amapa and Para.

Remarks: Some degree of affinity between the Priodesmini, Batodesmini, and Trachelodesmini is suggested by the tendency in all three for broadening and truncation of the epiproct, broadening of the sterna, and development of a cluster of long silky hairs at tarsal apices. The first two groups share, moreveor, a tendency for modification of the anterior legs in the male sex.

KEY TO THE GENERA OF PRIODESMINI

1. Lateral edge of paranota trilobed by the presence of two deep sinuses, peritrematic region thus set off as though pedicillate; femora of some of the anterior legs of males modified; epiproct short, decurved, apically rather broad 2

— Lateral edge of paranota not deeply incised, peritreme set off a most by shallow notches; anterior legs of males unmodified; epiproct longer and more acuminate apically 3

2. Posterior lobe of paranota with three to five small dentations; pleurosternal carinae projecting beyond posterior edge of segment; femora of 4th-7th legs of males produced ventrad at midlength; coxae of gonopods unmodified, glabrous; telopodite long and slender, prefemoral process long and slender or rudimentary . . . . *Priodesmus*

— Posterior lobe of paranota acuminate, without dentations; pleurosternal carinae small, not projecting caudad beyond edge of segment; femora of the 2nd-4th legs of males with adenostyle at midlength ventrally; coxae of gonopods with large and prominent dorsolateral setiferous lobe; telopodite more massive, curved distad beyond apex of solenomerite; prefemoral process large, distally clavate . . . . *Stenonia*

3. Prefemora of midbody legs with prominent long, acute, ventrodistal spine; prefemora of most legs with a small dorsal projection near the base 4

— Prefemora of legs without ventrodistal spine or process on the dorsal side . 5

4. Telopodite of gonopod without solenomerite, prostatic groove ends in a costulated region behind a large, conspicuous, earlike process; coxa relatively large, distinctly more massive than telopodite . . . . *Cypraeogona*

— Telopodite of gonopod with distinct subterminal solenomerite, prostatic groove visible for its entire length along median face of telopodite; coxa relatively small, of the same size order as telopodite . . . . *Cayenniola*

5. Peritreme small and rounded, set off by a shallow sinus from anterior lobe of paranota, the latter broadly truncate with acute outer angles; gonopod coxa enlarged, with field of setae on dorsal side and another area of much smaller setae subtending curvature of cannula; telopodite with a strongly dentate prefemoral process, and a long slender simple femoral process on the ventral side . . . . *Parastenonia*

— Peritreme larger and elongate-oval, one-third to one-half paranotal length, without a shallow sinus in front (at most a notch), anterior paranotal lobe small and rounded; gonopod coxa not notably enlarged, glabrous or with one or two dorsal setae, telopodite variable but without femoral process . . . 6

6. Peritreme relatively small, located posterior to midlength of paranotal edge; gonopod coxa with a setiferous knob on dorsal side; telopodite long and slender, without trace of prefemoral process; prostatic groove ending on a small subterminal solenomerite; apical third of telopodite curved dorso-anteriad . . . . *Cearodesmus*

— Peritreme large, occupying nearly half of paranotal margin, prominent, distinctly set off by marginal notches; gonopod coxa glabrous, without dorsal knob; telopodite with large laminate prefemoral process extending beyond apex of the ventromedially curved telopodite, latter simple, no solenomerite present . . . . *Brasiloschubartia*

Priodesmus Cook

Priodesmus Cook, 1895, Proc. U. S. Nat. Mus. 18: 53. Proposed with two new species. Type Species: *P. acus* Cook, by subsequent designation of Brolemann, 1916. — Jeekel, 1963, Stud. Fauna Suriname, 4: 101.

Jeekel (op. cit. 101-102) found that among the seven or eight species included by him in *Priodesmus* two very distinct groups could be distinguished on the basis of a large number of characters. I take here the position that probably generic status is appropriate for each group.

Priodesmus acus Cook

Priodesmus acus Cook, 1895, Proc. U. S. Nat. Mus. 18: 55, pl. 1, figs. 1-19. ♂ holotype (U. S. Nat. Mus.) from « Surinam » without further data. — Jeekel, 1963, Stud. Fauna Suriname, 4: 105.

Priodesmus acus var. *rutilipes* Jeekel, 1950, Ent. Ber. 13: 70, figs. 1-3, ♂ holotype (Zool. Mus. Amsterdam) from the Saramacca River, Surinam.

The status of the population named *rutilipes* by Jeekel remains somewhat uncertain, perhaps it represents a geographically discrete subspecies.

Although not mentioned in the text description, Cook's original figure 19 shows the tarsal claw of *acus* to be relatively small, and greatly exceeded by a number of long setae from apex of the tarsus. This is a relatively singular feature for a chelodesmoid, and so far as I know occurs elsewhere only in the tribes Trachelodesmini and Batodesmini. I mentioned it in my recent (1975) synopsis of the former group, as a possible indicator of some degree of affinity between priodesmines and trachelodesmines. It is gratifying to observe exactly the same configuration in *Cypraeogona*, and I venture the opinion that it occurs in the other genera of Priodesmini as well.

Priodesmus papillosus Attems

Priodesmus papillosus Attems, 1931, Zoologica, Stuttg. 30 (79): 41, figs. 60-63, ♂ holotype (Zool. Mus. Hamburg), from " Surinam " without further data. — Jeekel, 1963, Stud. Fauna Suriname, 4: 108, fig. 18.

Jeekel (op. cit. 108) cited numerous localities in Surinam for this apparently common species, to which I can add, from a male in my personal collection, the locality Moengo, May 24, 1927 (collector unknown). This specimen agrees in every respect with the descriptions given by Attems and Jeekel; moreover it has also the small tarsal claws and long apical tarsal setae noted above for *acus*.

Stenonia Gray

Stenonia Gray, 1843, in Todd: Cyclop. Anat. Phys. 3: 546. Type species, *Iulus dentatus* Olivier, 1792, subsequent designation of Cook, 1896.

Priodesmus (in part), Jeekel, 1963, Stud. Fauna Suriname, 4: 117-111.

The revival of this old and still poorly known name for a well-defined and distinct group of priodesmines is done with considerable diffidence and reservation. I agree with Jeekel's surmise (1963: 118) that despite the brevity of the original description (which is all that we know of the species *dentata*), *Stenonia* is probably based on a member of the " haematopterus " group of species, and until evidence to the contrary is forthcoming, I think the name may be provisionally used in that context.

Stenonia dentata (Olivier)

Iulus dentatus Olivier, 1792, Encycl. Method. Insect., 7: 417. Type specimen not known to exist, it was said to have come from Cayenne.

Stenonia dentata: Cook, 1896, Brandtia, 12: 51.

On the basis of Olivier's very short description, this species is apparently about 40 mm long and near 6 mm in width, the type having been a female. It is thus appreciably larger than either *Cypraeogona elisa* (♀ 4.8 mm) or *Cayenniola styliger* (♀ 3.9 mm), both of which also occur in French Guiana. The difference in size does not, of course, exclude the possibility that *dentata* may prove to be congeneric with one of the above-mentioned species. The question may eventually be answered when the diplopod fauna around Cayenne has been thoroughly collected.

Stenonia haematoptera (Jeekel), comb. nov.

Priodesmus haematopterus Jeekel, 1963, Stud. Fauna Suriname, 4: 111, figs. 19-21. ♂ holotype (Rijksmus. Leiden) from the Nassau Mountains, Surinam.

Stenonia coralloides (Jeekel), comb. nov.

Priodesmus coralloides Jeekel, 1963, Stud. Fauna Suriname, 4: 115, figs. 25-32. ♂ holotype (Mus. hist. nat. Paris) from " Placers de Carsevene " Edo. Amapa, Brasil.

Stenonia elegans (Gray), comb. nov.

Polydesmus elegans Gray, 1832, in: Griffith, Animal Kingdom, Insecta, vol. 1, pl. 135, figs. 6-6b, vol. 2, p. 792. ♀ holotype (Brit. Mus.), without locality data.

Priodesmus elegans: Jeekel, 1963, Stud. Fauna Suriname, 4: 113, figs. 22-24.

Parastenonia, gen. n.

Type species: *Priodesmus aurae* Schubart, 1947.

Diagnosis: A priodesmine genus in which the peritrematic lobe of the paranota is relatively small and not sharply set off, there being virtually no sinus between it and the posterior paranotal corner. Anterior legs of males unmodified. No tibial pads. Coxa of gonopods large, with dorsal field of setae and another field of numerous short setae subtending curvature of cannula medially; telopodite almost straight, with large denticulate prefemoral process and a long slender acuminate ventral process from the femoral region. Prostatic groove running out to apex of telopodite, no separate solenomerite formed.

Distribution: Known so far only from the type locality of the type species, in the city of Belem, Edo. Para, Brasil.

Etymology: Name derived from the Brasilian state of Para + the generic name *Stenonia*.

Parastenonia aurae (Schubart), comb. nov.

Priodesmus aurae Schubart, 1947, Bol. Mus. Nac. Rio de J. (n. s., Zool.), 82: 45, figs. 44, 45. Syntype ♂ & ♀ (Mus. Nac. Rio de J.), from Aura, Belem, Edo. Para, Brasil.

Although the original description of this species is not explicit on several important points, it seems safe to assume that Schubart would have mentioned any modification of the anterior male legs; as he did not probably they lack the adenostyles that occur in species of *Priodesmus*. In any event, the form of the gonopods alone forbids inclusion of *aurae* in Priodesmus, and I believe that separate generic status for this form will be found justifiable.

Parastenonia parae (Cook), comb. nov.

Priodesmus parae Cook, 1895, Proc. U. S. Nat. Mus., 18: 56. ♀ holotype (Zool. Mus. Berlin), labeled only " Para ", Brasil.

As Jeekel has observed, it is possible that this name is a senior synonym of Schubart's *aurae*, which was also based upon material from Para. But since even a virtual identity in the external form of two specimens does not mean the gonopod structure will be even similar, specific identity cannot be assumed, and it may be many years (if ever) before the status of these two names can be resolved.

Cypraeogona, gen. nov.

Type species: *Cypraeogona elisa*, sp. nov.

Diagnosis: A priodesmine genus in which the peritreme is well defined but set off only by anterior and posterior marginal indentations. Metaterga finely granular, with indications of one or two transverse rows of tubercules; limbus prominent, broad, with projecting fimbriae. Epiproct moderate in size, apically conical, lateral tubercules large. Mesal margins of paraprocts compressed and enlarged, set off by submarginal groove. Sterna broad, unmodified, smooth. Prefemora of legs with ventrodistal spine and digitiform dorsal process in both sexes; tarsal claw small, almost hidden in a cluster of long apical tarsal macrosetae. Anterior legs and sterna of males without lobes or processes.

Gonopod aperture unusually large, subtrapezoidal in outline; coxae large and robust, with a field of lateral setae, no apophysis. No median sternal remnant. Telopodite nearly straight, no angle between prefemur and acropodite, latter simple, apically broadened, with striated convex area and subterminal conchoidal structure strongly resembling the shell of a cowrie; prostatic groove straight, ending behind the conchiform process, no solenomerite present.

Distribution: This genus is known so far only from the type locality of the type species, in the northwestern sector of French Guiana.

Etymology: Name derived from the generic name *Cypraea* + the combining suffix " -ogona " (from gonopod). Gender feminine.

Cypraeogona elisa, sp. nov.

Figures 1-7

Diagnosis: With the characters of the genus; specific characters will doubtless be found in size, ornamentation, and gonopod structure when other species become known.

Material: Male holotype, two male and one female paratypes, labeled " St. Laurent du Marino/Guyane Française/Achat Baudet 1926 ". The locality name is doubtless a misspelling of Saint Laurent-du-Maroni, on the Maroni River in northwestern French Guiana.

Holotype: Adult male, body somewhat fragmented, total length about 31 mm., widths of segments across paranota as follows:

Segment 1-3.8 mm	Segment 10-4.4 mm
2-4.3	12-4.3
4-4.4	14-4.3
6-4.6	16-4.2
8-4.4	18-3.2

Body increasing in width back to segments 6 and 7, thence tapering very gradually to segment 16 after which very abruptly. Maximum W/L ratio 14.8%, W/L ratio at midbody, 14.3%.

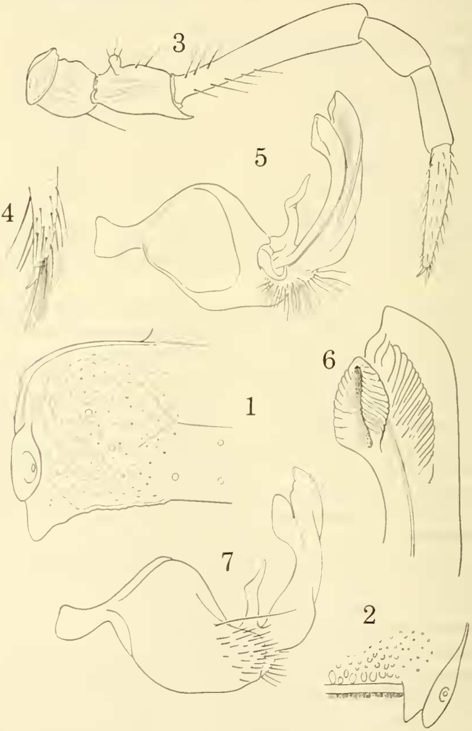
Surface of head finely granular. Epicranial groove distinct, genae convex, with narrow lateral margin. Lower half of face moderately setose; epicranial setae 2-2 in a transverse series, 1-1 supra-antennal, 1-1 interantennal, about three series of 3-3 frontal, 4-4 clypeal, 8-8 labral, 6 to 8 on each genal margin and about 6 on each genal convexity. Antennae widely separated, isthmus 0,7 mm, almost as great as length of 2nd antennomere, sockets with prominent raised rim. Articles 2-5 similar in size and shape, each slightly clavate distally and moderately setose, 6th notably thicker and more profusely setose, 7th relatively large, as long as broad, somewhat compressed, distal edge inturned on two sides, dividing the sensory cones into two equal diads. Outer surface of 6th article with prominent transverse sensory field, of 7th with a rounded convex sensory area. Antennae relatively large, extending back to front edge of paranota of 5th segment.

Surface of collum finely granular, with three indistinct transverse rows of small polished tubercules; lateral ends of collum acute, directed caudad; anterior and posterior edges with marginal rim, upper surface of lateral ends rather coarsely and irregularly roughened and with some elongated small tubercules.

Body segments subdivided by deep prominent stricture, its anterior edge distinct but not sharply projecting; surface of stricture and of prozona finely and densely microsquamulate. Paranota almost horizontal, set high on sides, the dorsum thus nearly flat. Segments 4-17 with distinct transverse metatergal sulcus, dorsal surface finely and densely granular, with a series of about 10 small tubercules along posterior margin, ornamentation more distinct and prominent on anterior segments. Shape of paranota as shown in Figures 1 and 2, peritremata set off by anterior and posterior notches except on segment 5 which lacks anterior notch; position of peritremata shifting caudally on the more posterior segments until exceeding true caudolateral corner of paranota on segment 19 (Fig. 2). Limbus relatively broad and conspicuous, becoming much broader ventrally, with a prominent marginal fringe of large seta-like fimbriae.

Epiproct moderate in size, conical in outline, the apex slightly depressed, marginal tubercules large and projecting. Paraprocts strongly striated dorsoventrally, medial margins prominent, compressed and elevated, set off by conspicuous deep submarginal groove. Hypoproct large, smooth, paramedian tubercules large and set on edge, median projection prominent.

Podosterna moderately elevated, smooth, with two transverse rows of generally 4-4 setae, and a shallow transverse groove, sternal width about 1.5 mm at midbody. Legs long and slender, of the form shown in figure 3. Prefemora of all legs except first pair with acute ventrodistal spine and a digitiform setiferous lobe on dorsal side near



Cypraeogona elisa, n. sp.

FIG. 1. Left paranotum of 10th segment, dorsal aspect. FIG. 2. Right paranotum of 19th segment, dorsal aspect, showing shift in form and position of peritreme. FIG. 3. Leg from midbody segment. FIG. 4. Apex of tarsal podomere, showing reduced claw and apical tuft of long setae. FIG. 5. Left gonopod, mesal aspect. FIG. 6. Distal half of telopodite of left gonopod, mesal aspect, enlarged, showing detail of subterminal conchoidal structure. FIG. 7. Left gonopod, lateral aspect. Drawings from holotype.

base. Tarsal claw small, partly concealed by a cluster of about 8 to 10 long sericeous setae as shown in figure 4.

Sides of metazona coarsely granulate, segments 2-7 with an irregular row of tubercules and projections along the pleurosternal suture, persisting back as far as segment 12 in the form of two separated tubercules. Stigmata similar in size and shape, elongate-oval, with coarsely dentate aperture; dorsal coxal condyles projecting laterad as small smooth lobes. Anterior sterna broad and unmodified except 6th, which is slightly depressed medially. Anterior legs without special modifications, prefemora not notably enlarged.

Gonopod aperture unusually large, subtrapezoidal in shape, widest posteriorly, extending across to front edge of prozonum but not infringing sternal surface between 8th pair of legs; lateral edges slightly elevated, posterior edge raised into a low flange. Gonopods (Figs. 5-7) large and robust, coxae filling the aperture and in contact medially, no sternal remnant present. Coxa massive, largest proximally, distally with a field of setae on lateral side, no trace of coxal apophysis. Telopodite set at nearly a right angle and almost straight, prefemur continuous with acropodite and provided with a small nearly straight, simple process. Acropodite without trace of torsion, apically broadened, the mesal surface with prominent elongate finely striated convex region, subtended dorsomedially by a large, prominent, fluted structure reminiscent of a cowrie shell (Fig. 7). Prostatic groove visible for most of its length, distally ending behind the conchoidal process, no evident solenomerite present.

Color of preserved specimen generally reddish-brown dorsally, legs and lateral half of paranota appearing yellowish; antennae somewhat more reddish than terga.

Paratype: Adult female, length approximately 34 mm, body more robust than in male, width increasing gradually from collum back to about 16th segment where 4.8 mm wide. Dorsal tuberculation generally less distinct than in male, paranota smaller, peritremata not so sharply set off from paranotal edge; sterna relatively broader; in other respects agreeing generally with male.

Cayenniola, gen. nov.

Type species: *Brasiloschubartia styliger* Jeekel, 1963.

Diagnosis: A priodesmine genus with the following characters: metaterga granular, with two transverse series of tubercules posterior to the sulcus; peritreme well-developed, set off from lateral edge of paranota by shallow notches. Limbus plain, without conspicuous fimbriae. Mesal margins of paraprocts elevated but not set off by a groove. Sterna broad, densely set with minute setiferous tubercules. Prefemora of legs posterior to gonopods with acute ventrodistal spine, those of legs beginning with 2nd pair with a small dorsal protuberance. Anterior legs and sterna of male unmodified.

Coxa of gonopod of moderate size, not enlarged proximally, without dorsal apophysis, setae present on lateral side. Telopodite rather short and stout, nearly straight, set against coxa at a right angle, without trace of torsion. Prefemur short, with a long slender and simple process. Prostatic groove visible most of its length in mesal aspect, terminating on a subterminal medial lamina which gives rise apically to a slender digitiform solenomerite.

Distribution: This genus is known so far only from the type locality of its type species, on the coast of French Guiana.

Etymology: The name is adapted from coastal district of the country of origin of the type species. Gender feminine.

Remarks: The type species of this genus is manifestly a close relative of *Cypraeogona elisa*, the two agreeing in most peripheral characters including modification of the prefemora. However, the difference in gonopod structure strikes me as fundamentally important and unless some kind of intermediate condition is dicovered in these appendages, I think it is quite justifiable to recognize two genera. In my view, *Cayenniola styliger* is much closer to *Cypraeogona elisa* than either of them is to *Brasiloschubartia zerneyi.*

Cayenniola styliger (Jeekel), comb. nov.

Brasiloschubartia styliger Jeekel, 1963, Stud. Fauna Suriname, 4: 131, figs. 41-43. ♂ holotype (Mus. Hist. Nat. Paris) from Ilet Pere, French Guiana.

Brasiloschubartia Jeekel

Brasiloschubartia Jeekel, 1963, Stud. Fauna Suriname, 4: 130. Type species, *Leptherpum zerneyi* Attems, 1931, by original designation.

Brasiloschubartia zerneyi (Attems)

Leptherpum zerneyi Attems, 1931, Zoologica (Stuttg.) 30 (79): 49, figs. 72, 73. ♂ holotype (Naturh. Mus. Wien) from Taperinha near Santarem, Edo. Para, Brasil.

Cearodesmus Schubart

Cearodesmus Schubart, 1945, Rev. Brasil. Biol., 5: 275. Type species, *C. gomesi* Schubart, by original designation.

Cearodesmus gomesi Schubart

Cearodesmus gomesi Schubart, 1945, Rev. Brasil. Biol., 5: 276, figs. 1, 2. ♂ holotype (Mus. Zool. Univ. Sao Paulo) from Fortaleza, Edo. Ceara, Brasil.

This small species appears to belong in the Priodesmini, but occupies a somewhat isolated position, and at the present I can not suggest a close relationship with any of the other genera recorded here. The seven " leptodesmid " genera to which Schubart compared *Cearodesmus* has little in common aside the lack of a prefemoral process, and are now referred to not less than four different families.

REFERENCES

Attems, C. 1931. Die Familie Leptodesmidae und andere Polydesmiden. *Zoologica, Stuttg.*, 30 (79): 1-149.

Cook, O. F. 1895. Priodesmus, a new genus of Diplopoda from Surinam. *Proc. U.S. Nat. Mus.*, 18: 53-59.

Hoffman, R. L. 1975. Chelodesmid Studies VI. A synopsis of the tribe Trachelodesmini (Diplopoda: Polydesmida). *Stud. Neotrop. Fauna*, 10: 127-144.

Jeekel, C. A. W. 1963. Diplopoda of Guiana (1-5), in: *Stud. Fauna Suriname*, 4 (11): 1-157.

Schubart, O. 1945. Algunos diplopodo novos do Ceara colecionados por Alcides L. Gomes. *Rev. Brasil. Biol.*, 5 (2): 275-281.

— 1947. Os Diplopodos da viagem do naturalista Antenor Leitao de Carvalho aos Rios Araguaia e Amazonas em 1939 e 1940. *Bol. Mus. Nac. (Rio de Janeiro)*, 82: 1-74.

Author's address:

Radford College
Radford, Virginia 24142
USA